

# INTERNAL WALL INSULATION - U-VALUE PERFORMANCE GUIDE

## Standard build up comprises of: (Outside - Inside)

- Existing masonry
- 10mm Baunit RK38
- 5mm Baunit RK70
- ISOLAIR-MULTI
- 10mm Baunit RK70; or
- PAVADRY
- 25mm Unventilated service void
- 12.5mm Plasterboard & 3mm Gypsum plaster skim

Building Regulations - Approved Document L (2022)					
	Passivhaus Target	New Dwelling - Notional Target U-value	All New Buildings - Limiting U-value	Existing Dwelling - New Elements Limiting U-value	Existing Buildings - Existing Elements Limiting U-value
External Walls - Cavity	0.10 - 0.15W/m <sup>2</sup> .K	0.18W/m <sup>2</sup> .K	0.26W/m <sup>2</sup> .K	0.18W/m <sup>2</sup> .K	0.55W/m <sup>2</sup> .K
External Walls - Solid	0.10 - 0.15W/m <sup>2</sup> .K	0.18W/m <sup>2</sup> .K	0.26W/m <sup>2</sup> .K	0.18W/m <sup>2</sup> .K	0.30W/m <sup>2</sup> .K

A WUFI assessment is recommended to determine interstitial condensation risk in IWI systems on all properties; proposing in excess of 60mm thickness of insulation; in severe exposure locations; or with single skin brickwork. WUFI software takes into account wind driven rain, capillary uptake, orientation and hourly weather data in the calculations to assess the risks dynamically, and allows the heat retention and moisture regulation qualities of the woodfibre insulation to be considered. Pavatex by Soprema prepare WUFI calculations on behalf of Unity Lime at a fee of £600.00+VAT for an assessment including report for submission to Building Control. Large scale projects using the Isolair or Pavadry IWI systems may qualify for this service free of charge. If you would like to commission a WUFI calculation please request a WUFI checklist from [technical@unitylime.co.uk](mailto:technical@unitylime.co.uk).

Insulation Thickness (mm)	Solid Brickwork 0.77 W/(m.K)				Limestone 1.40 W/(m.K)				Sandstone 2.30 W/(m.K)				Ventilated Cavity				
	110	230	350	470	300	400	500	600	300	400	500	600	Brick / Cavity / Brick		Brick / Cavity / Block		
													110 / 50 / 110	102.5 / 50 / 100			
0	3.00	2.04	1.55	1.28	2.47	2.10	1.83	1.62	3.12	2.75	2.45	2.22	2.36		2.71		
ISOLAIR -MULTI 0.043	40	0.79	0.70	0.63	0.58	0.75	0.71	0.67	0.64	0.80	0.77	0.75	0.72	0.74		0.77	
	60	0.58	0.53	0.49	0.46	0.55	0.53	0.51	0.50	0.58	0.57	0.55	0.54	0.55		0.57	
	80	0.45	0.42	0.40	0.38	0.44	0.43	0.41	0.40	0.46	0.45	0.44	0.43	0.44		0.45	
ISOLAIR -MULTI 0.041	100	0.36	0.34	0.32	0.31	0.35	0.34	0.33	0.33	0.36	0.36	0.35	0.35	0.35		0.36	
	120	0.31	0.29	0.28	0.27	0.30	0.29	0.29	0.28	0.31	0.30	0.30	0.30	0.30		0.30	
PAVADRY 0.041	51	0.61	0.56	0.51	0.48	0.62	0.60	0.57	0.55	0.65	0.63	0.62	0.60	0.58		0.60	
	71	0.47	0.44	0.41	0.39	0.48	0.47	0.45	0.44	0.55	0.49	0.48	0.47	0.45		0.46	
	91	0.38	0.36	0.34	0.33	0.39	0.38	0.37	0.37	0.41	0.40	0.39	0.39	0.37		0.38	